



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,353	12/08/2003	Ward Thomas Brown	A01474	1784
21898	7590	09/01/2005	EXAMINER	
ROHM AND HAAS COMPANY PATENT DEPARTMENT 100 INDEPENDENCE MALL WEST PHILADELPHIA, PA 19106-2399			SHOSHO, CALLIE E	
			ART UNIT	PAPER NUMBER
			1714	

DATE MAILED: 09/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/730,353

Applicant(s)

BROWN ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-7 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/20/04 & 5/24/04.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1 and 7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 7 of U.S. Patent No. 6,710,161 (Bardman et al.). Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following explanation.

Bardman et al. disclose polymer composition comprising copolymer particles bearing first phosphorous acid groups wherein the copolymer particles comprise at least one phosphorous acid monomer as polymerized units. The polymer composition is substantially free of water-soluble phosphorous acid compounds bearing second phosphorous groups. There is also disclosed a method comprising applying the polymer composition onto a substrate and drying or allowing the composition to dry.

The differences between Bardman et al. and the present claimed invention are (a) the present claims disclose “pigmented” polymer composition that comprises colorant while Bardman et al. is silent with respect to the use of colorant or “pigmented” composition and (b) present claims disclose “polymer” particles while Bardman et al. disclose “copolymer” particles.

With respect to difference (a), applicants’ attention is drawn to MPEP 804 where it is disclosed that “the specification can always be used as a dictionary to learn the meaning of a term in a patent claim.” *In re Boylan*, 392 F.2d 1017, 157 USPQ 370 (CCPA 1968). Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent (underlining added by examiner for emphasis) *In re Vogel*, 422 F.2d 438, 164 USPQ 619,622 (CCPA 1970).

Consistent with the above underlined portion of the MPEP citation, attention is drawn to col.16, lines 3 and 6 of Bardman et al. that discloses that the polymer composition functions as an ink or paint which are well known to necessarily include pigment and to col.15, line 41 of Bardman et al. that discloses that the polymer composition does comprise pigment or colorant. Further, it is noted that in light of the open language of the claims of Bardman et al., i.e.

“comprising”, the claims are open to the inclusion of additional ingredients including pigment or colorant.

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to use pigment or colorant in the polymer composition of Bardman et al. in order to produce composition with desired color, and thereby arrive at the claimed invention.

With respect to difference (b), it is noted that the present claims refer to “polymer” particles having first phosphorous acid groups wherein the “polymer” particles comprise phosphorous acid monomer as polymerized units while the claims of Bardman et al. refer to “copolymer” particles bearing first phosphorous acid groups wherein the “copolymer” particles comprise phosphorous acid monomer as polymerized units.

However, it would have been obvious to one of ordinary skill in the art that the “copolymer” particles in the claims of Bardman et al. are a specific type of “polymer” particles broadly disclosed in the present claims and thus fall within the scope of the present claims.

In light of the above, it therefore would have been obvious to one of ordinary skill in the art that “copolymer” particles of Bardman et al. are specific type of presently claimed “polymer” particles and thus, one of ordinary skill in the art would have arrived at the claimed invention.

3. Claims 1 and 7 are directed to an invention not patentably distinct from claims 1 and 7 of commonly assigned U.S. 6,710,161 (Bardman et al.). Specifically, although the conflicting claims are not identical, they are not patentably distinct in light of the explanation given in paragraph 2 above.

4. The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302).

Commonly assigned U.S. 6,710,161 (Bardman et al.), discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications filed on or after November 29, 1999.

5. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. 6,710,161 (Bardman et al.).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter

Art Unit: 1714

disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

For an explanation of the rejection, see paragraph 2 above.

Information Disclosure Statement

6. It is noted that reference AG, i.e. copending application 10/642,791, has been stricken from the IDS filed 2/20/04 since this application is not available to the public. However, 10/642,791 has been considered and the "Search Notes" of the instant file wrapper has been annotated to this effect.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claim 1 recites that the pigmented polymer composition is “substantially” free of water-soluble polymer bearing second phosphorous groups. The scope of the claim is confusing because it is not clear what is meant by “substantially” free or how much water-soluble polymer bearing second phosphorous groups this encompasses. That is, how much water-soluble polymer bearing second phosphorous groups can the composition contain and still be considered “substantially” free – 0.1%, 1%, 5%, etc.?

Similar questions arise in claims 3, 5, and 7 which each also recite “substantially” free claim language.

(b) Claim 1 is drawn to a “pigmented” polymer composition comprising “colorant” particles. The scope of the claim is confusing given that the polymer composition is described as “pigmented” but the composition comprises “colorant particles”. That is, given that the composition is “pigmented”, it would necessarily follow that the composition must comprise pigment. However, given that “colorant particles” can comprise not only pigment but dye, the use of pigment is not necessarily required. Clarification is requested.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1-2 and 4-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Bardman et al. '051 (U.S. 6,576,051).

Bardman et al. '051 disclose composition comprising composite particles comprising 10-60 vol.% white pigment and 20-70 wt.% two-phase polymer particles comprising first polymer comprising polymerized units of ethylenically unsaturated monomer and phosphorous acid monomer and having first phosphorous acid groups and second polymer free of first phosphorous acid groups. It is disclosed that one polymer possesses glass transition temperature greater than 40 °C while the other possesses glass transition temperature less than 40 °C. It is further disclosed that the first polymer is prepared by aqueous emulsion polymerization at pH less than 4. There is also disclosed method comprising applying the above composition to substrate and allowing the composition to dry (col.1, lines 9-13, col.2, lines 15-25 and 39-42, col.3, lines 20-21 and 25-28, col.4, lines 3-25, col.6, lines 13-53, col.11, lines 9-15, col.16, lines 42-57, col.17, lines 25-30, and Table 1.1). It is noted that the amount of polymer is disclosed in wt.% while the present claims require vol.%. However, given the broad amount of polymer disclosed, it is clear that this amount would inherently overlap that presently claimed.

Attention is drawn to comparative example F that discloses polymer composition comprising first polymer obtained from butyl acrylate, methyl methacrylate, and phosphoethyl methacrylate that possesses glass transition temperature of 7 °C and second polymer obtained from butyl acrylate, styrene, and methacrylic acid possessing glass transition temperature of 28 °C wherein the ratio of first polymer to second polymer is 1:2.

In light of the above, it is clear that Bardman et al. anticipate the present claims.

11. Claims 1-4 and 6-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Dersch et al. (U.S. 6,492,451).

Dersch et al. disclose pigmented coating composition comprising 15-25 vol.% pigment including titanium dioxide and 5-90 wt.% polymer particles comprised of polymerized units of phosphorous acid monomer and having first phosphorous acid groups wherein the polymer possesses glass transition temperature of -60 to 80°C . There is also disclosed method comprising applying the above composition to substrate and allowing the composition to dry (col.1, lines 4-7, col.2, lines 30-36, col.3, lines 1-5 and 59-64, col.9, lines 35-63, col.10, lines 1-16, and col.11, lines 57-67). It is noted that the amount of polymer is disclosed in wt.% while the present claims require vol.%. However, given the broad amount of polymer disclosed, it is clear that this amount would inherently overlap that presently claimed.

While it is disclosed that the polymer is produced using emulsion polymerization, there is no disclosure that the emulsion polymerization is prepared at pH of less than 2. However, it is noted that “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process”, *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Further, “although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product”, *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983).

Therefore, absent evidence of criticality regarding the presently claimed process and given that Dersch et al. meet the requirements of the claimed composition, Dersch et al. clearly meet the requirements of present claims 1-4 and 6-7.

In light of the above, it is clear that Dersch et al. anticipate the present claims.

12. Claims 1-4 and 6-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Rosano et al. (U.S. 6,890,983).

Rosano et al. disclose pigmented polymer composition comprising 10-60 vol.% pigment and 20-70 wt.% polymer particles comprised of polymerized units of phosphorous acid monomer and having first phosphorous acid groups wherein the polymer is prepared by emulsion polymerization at pH of 1-2. While the pigment includes titanium dioxide, the use of titanium dioxide is not required. The polymer possesses glass transition temperature of -50 to 100 °C. There is also disclosed method comprising applying the above composition to substrate and allowing the composition to dry (col.1, lines 9-11, col.2, lines 1-7, col.3, lines 22-31, col.3, line 65-col.4, line 35, col.7, lines 39-42, col.8, lines 15-37, col.10, lines 4-41, and col.14, lines 35-50 and 60-64). It is noted that the amount of polymer is disclosed in wt.% while the present claims require vol.%. However, given the broad amount of polymer disclosed, it is clear that this amount would inherently overlap that presently claimed.

In light of the above, it is clear that Rosano et al. anticipate the present claims.

13. Claims 1-4 and 6-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Bardman et al. '161 (U.S. 6,710,161).

Bardman et al. '161 disclose polymer composition comprising pigment and 10-70 wt.% copolymer bearing first phosphorous acid groups wherein the copolymer particles comprise at least one phosphorous acid monomer as polymerized units wherein the polymer is prepared by emulsion polymerization at pH less than 2. The polymer composition is substantially free of water-soluble phosphorous acid compounds bearing second phosphorous groups. The pigment includes titanium dioxide, but the use of titanium dioxide is not required. The pigment is present in amount of, for instance, 18 vol.%. The polymer possesses glass transition temperature of 0-80 C. There is also disclosed a method comprising applying the polymer composition onto a substrate and drying or allowing the composition to dry (col.1, lines 10-14, col.2, lines 46-55, col.2, line 63-col.3, line 36, col.4, lines 23-28, col.5, lines 7-9, col.6, lines 6-35, col.11, lines 46-54, and col.13, lines 25-40). It is noted that the amount of polymer is disclosed in wt.% while the present claims require vol.%. However, given the broad amount of polymer disclosed, it is clear that this amount would inherently overlap that presently claimed.

In light of the above, it is clear that Bardman et al. '161 anticipate the present claims.

14. Claims 1-2 and 6-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Xue et al. (U.S. 6,833,401).

Xue et al. disclose polymer composition comprising pigment that is titanium dioxide and polymer bearing first phosphorous acid groups wherein the polymer comprises at least one phosphorous acid monomer as polymerized units wherein the polymer is prepared by emulsion polymerization at pH of 1-12. The polymer possesses glass transition temperature of greater than 50 °C. There is also disclosed a method comprising applying the polymer composition onto a

Art Unit: 1714

substrate and drying or allowing the composition to dry (col.4, lines 10-19, col.6, line 58, col.11, lines 20-21, col.12, lines 60-66, and col.17, line 66-col.18, line 27).

In light of the above, it is clear that Xue et al. anticipate the present claims.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

17. Claims 1-3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 330246.

EP 330246 discloses composition comprising pigment and polymer particles comprised of polymerized units of phosphorous acid wherein the polymer is prepared by emulsion polymerization at pH of 2. There is also disclosed a method comprising applying the polymer composition onto a substrate and drying or allowing the composition to dry (page 2, lines 13-25, page 3, lines 1-22 and 55-56, page 4, lines 46 and 49-50, Example I and Example V).

The difference between EP 330246 and the present claimed invention is (a) EP 330246 discloses preparing the polymer using emulsion polymerization at pH of 2 while the present claims require pH less than 2 and (b) specific type of pigment.

With respect to difference (a), it is apparent, however, that the instantly claimed pH, i.e. "less than 2" which clearly encompasses values such as 1.99, 1.95, etc., and that taught by EP 330246, i.e. 2, are so close to each other that the fact pattern is similar to the one in *In re Woodruff*, 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a "slight" difference in the ranges the court held that such a difference did not "render the claims patentable" or, alternatively, that "a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties".

In light of the case law cited above and given that there is only a "slight" difference between the pH disclosed by EP 330246 and the pH disclosed in the present claims, it therefore would have been obvious to one of ordinary skill in the art that the pH disclosed in the present claims is but an obvious variant of the amounts disclosed in EP 330246, and thereby one of ordinary skill in the art would have arrived at the claimed invention.

With respect to difference (b), it is noted that EP 330246 generically discloses the use of pigment with no disclosure of the color of pigment utilized.

However, it therefore would have been obvious to one of ordinary skill in the art to choose color of pigment, including or not including white pigment, depending on the end use of the composition, and thereby arrive at the claimed invention.

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Selvarajan et al. (U.S. 5,837,776) disclose polymer obtained from phosphonate-containing monomer wherein the polymer is produced by emulsion polymerization at pH of about 2, however, there is no disclosure of pigment.

Brown et al. (U.S. 2003/0119954) disclose composition comprising copolymer having first phosphorous acid groups, however, there is no disclosure of pigment.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

Art Unit: 1714

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
8/27/05